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Office of Enforcement
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Justice

Josef Warhank
Review and Compliance Officer
Montana Historical Society
State Historic Preservation Office
P. O. Box 201202
Helena, Montana 59620-1202

October 2, 2009

VIA HAND DELIVERED

RE: Script for Demolition Video, Asarco East Helena Smelter Stacks

Dear Mr. Warhank:

Enclosed please find the proposed script and transcribed interviews for the 10 minute documentary video to be submitted with the 2009 Historic Recordation Report for the Asarco East Helena Smelter. The entirety of the transcription is being submitted with the script in order to address its brevity. Ten minutes is a very short time to provide the context of the stack demolition. The reality of the video length means that only brief segments of each interview will appear in the completed film. To mitigate this situation, Asarco will submit an indexed copy of all the interviews, in their entirety, which can be placed in the Historical Society library as part of the oral history of the plant. The interviews will be readily accessible to the general public to provide additional historic documentation of the plant. This deliverable will be part of the historic recordation report to be submitted later this fall.

We are under a very tight production deadline. Please submit any comments you have on the script to me by October 14, 2009. You may contact me at 227-4529.

Sincerely,

Jon Nickel

Enclosure: Script for Demolition Video
Transcript of Video Interviews

Cc: Linda Jacobson
Iver Johnson

Moving Pictures Productions**1****10/2/09****Agency****Writer**

Patrick Hutchins

Client

Arcadis

Producer

Patrick Hutchins

Project

10 min Video Documentary

Director

Gary Tyree

Title

"Smelter Story"

Art Director**Subject**

Historic recordation

Medium

Video

Job #

ARC-001

Contact

Connie Cole/449-7001 x13

Code #**Draft**

V7

<u>VIDEO</u>	<u>AUDIO</u>
OPEN ON TITLE CARD: DX UP <i>August 14, 2009 THEN Demolition Day</i>	<u>SFX:</u> CROWD NOISE
DX TO: CU OF CROWD SCENES. IT'S EARLY MORNING. PEOPLE ARE DRINKING COFFEE. THERE'S A FESTIVE ATMOSPHERE	<u>SFX:</u> BITS OF CONVERSATION
CUT TO: SPECTATORS WITH STACKS VISIBLE BEHIND (BUT NOT PROMINENTLY)	<u>SFX:</u> CROWD NOISE/CONVERSATIONS
CUT TO: SINGLE STACK FROM DISTANCE	<u>SFX:</u> CONTINUE
CUT BACK TO: CROWD SCENE	<u>SFX:</u> CONTINUE <u>COUNTDOWN VOICE:</u> Ten ...
CUT TO: FACE IN CROWD, ATTENTION RIVETED	<u>SFX:</u> HUSHED <u>CV:</u> ... nine ... eight ...
CUT TO: SHOT OF TWO STACKS	<u>CV:</u> ... seven ...
CUT BACK TO: FACES STARING	<u>CV:</u> ... six ...
CUT TO: WIDE SHOT OF ALL THREE STACKS	<u>CV:</u> ... five ... four ...
CUT BACK TO: RAPT FACES	<u>CV:</u> ... three ...

<u>VIDEO</u>	<u>AUDIO</u>
CUT TO: ANOTHER SHOT OF STACKS	<u>SFX:</u> ALL CROWD NOISE FADES TO SILENCE
CUT TO: WIDE SHOT OF STACKS	<u>CV:</u> ... two ...
CONTINUE: SHOT HOLDS, THEN ...	<u>SFX:</u> BIRDSONG
DX TO BLACK SCREEN, THEN MAIN TITLE: <i>Smelter Story - The Rise and Fall of an American Industrial Plant</i>	<u>MUSIC:</u> THEME UP AND DOWN
CUT TO: SHOT OF WICKES	<u>ANNCR VO:</u> In 1889, the Montana Smelter Company move its operations from Wickes ...
CUT TO: SHOT OF EAST HELENA SITE (see MHS shot 951-101)	<u>ANNCR VO:</u> ... 30 miles north to the Prickley Pear Valley near Helena ...
CUT TO: SHOT OF EARLY SMELTER BUILDINGS (see MHS shot 951-100)	<u>ANNCR VO:</u> ... where a better water supply and access to major rail lines provided key advantages.
CUT TO: HISTORIAN JOSEF WARHANK	<u>JOSEF WARHANK:</u> TALKS ABOUT THE PLANT'S OPERATIONS IN THE 20TH CENTURY.
CUT TO: SHOT OF EAST HELENA SMELTER IN EARLY DAYS (see MHS shot PAC 2008-81.1 Matt Multz beer hall)	<u>ANNCR VO:</u> ASARCO, as it came to be known, would exert a major influence on both East Helena ...
CUT TO: ANOTHER E HELENA SHOT (see MHS shot PAC 75-61.4 Silver Saloon)	<u>ANNCR VO:</u> ... the community that sprang up around the plant, and the entire state of Montana.
CUT TO: SHOTS OF 1935 EARTHQUAKE	<u>ANNCR VO:</u> In 1935, a series of devastating earthquakes struck the Helena valley.
CUT TO: RUBBLE OF EARTHQUAKE AT PLANT	<u>ANNCR VO:</u> The top 200 feet of the acid plant stack, built

<u>VIDEO</u>	<u>AUDIO</u>
	around 1917, crumbled.
CUT TO: CAPPED ACID PLANT STACK	<u>ANNCR VO:</u> The bottom half was capped and continued in use.
CUT TO: SINTER STACK	<u>ANNCR VO:</u> The 400 foot Sinter stack, built around the same time, fared better ...
CUT TO: ANOTHER SHOT OF SINTER STACK	<u>ANNCR VO:</u> ... thanks to its cement facing and steel reinforced construction.
CUT TO: WORKERS BUILDING BASE OF STACK (See MHS photo PAC 87-111 #1)	<u>ANNCR VO:</u> Three years later, work on a new stack began.
CUT TO: TWO STACKS, ONE UNDER CONSTRUCTION (See MHS photo PAC 87-111 #2)	<u>ANNCR VO:</u> Designed to lift the cleaned gases emitted from the massive air filters of the baghouses...
CUT TO: LOOKING LEVEL ON WORKERS BUILDING STACK (See MHS photo PAC 87-111 #3)	<u>ANNCR VO:</u> ... it would eventually tower 425 feet above the valley floor.
CUT TO: SHOT LOOKING UP THE STACK WITH WORKERS PLATFORM AT TOP (See MHS photo PAC 75-61.1 #4)	<u>ANNCR VO:</u> In an era before strict safety rules were enacted...
CUT TO: LOOKING DOWN ON WORKERS BUILDING STACK (See MHS photo PAC 87-111 #5)	<u>ANNCR VO:</u> ... workers sometimes brought ...
CUT TO: "POPS" STANDING ON HIS HEAD ON TOP OF THE STACK (See MHS photo PAC 75-61.2 #6)	<u>ANNCR VO:</u> ... a daredevil sense of exuberance to the job.
CUT TO: SHOT OF "POPS" AND WES BYBERG ON STACK (See MHS photo PAC 87-111 #5)	<u>ANNCR VO:</u> Shown here on the left, "Pops" as he was known, survived his stunt without a scratch.
CUT TO TITLE CARD: <i>End of an Era</i>	<u>MUSIC:</u> UP

<u>VIDEO</u>	<u>AUDIO</u>
DX TO: STILL SHOT OF SMELTER IN 1970 (see PAC 76-19 - 6)	<u>ANNCR VO:</u> The next fifty years was a period of technological improvements for the smelter ...
CUT TO: B-ROLL OF MANLEY STALLINGS	<u>ANNCR VO:</u> ... and well-paying jobs for the people of East Helena.
DX TO: MANLEY STALLINGS INTERVIEW	<u>MANLEY STALLINGS:</u> TALKS ABOUT HOW MULTIPLE GENERATIONS OF FAMILIES WORKED AT THE SMELTER
CUT TO: B-ROLL OF FRED QUIVIK	<u>ANNCR VO:</u> Along with the prosperity, however, came a growing awareness of the smelter's impact on the environment.
DX TO: FRED QUIVIK INTERVIEW	<u>FRED QUIVIK:</u> TALKS ABOUT SOME OF THE ENVIRONMENTAL CHALLENGES OF LEAD SMELTING
CUT TO: NEWSPAPER HEADLINES ABOUT SMELTER BEING NAMED A SUPERFUND SITE	<u>ANNCR VO:</u> As early as 1984, the smelter was listed as a Superfund site by the EPA.
CUT TO: JON NICKEL INTERVIEW	<u>JON NICKEL:</u> TALKS ABOUT THE ECONOMIC CHALLENGES THAT ASARCO FACED IN ITS LAST DECADE
DX TO: HEADLINE ABOUT SMELTER'S "TEMPORARY" CLOSURE	<u>ANNCR VO:</u> In February 2001, Grupo Mexico which had acquired Asarco in 1999, announced a temporary closure of the East Helena smelter.
DX TO: HEADLINE ABOUT PERMANENT CLOSURE	<u>ANNCR VO:</u> Two months later, the plant was in the news again.
DX TO: PHOTO OF SITE AROUND TIME OF CLOSING	<u>ANNCR VO:</u> After more than a century of operation, the

<u>VIDEO</u>	<u>AUDIO</u>
	smelter would now undergo cleanup and demolition.
DX TO TITLE CARD: <i>8 years later</i>	<u>MUSIC:</u> UP
CUT TO: MEETING OF DEMOLITION CONTRACTORS AT SMELTER	<u>JON NICKEL:</u> TALKS ABOUT THE BIDDING PROCESS, THEN FADE ... <u>ANNCR VO:</u> In May, 2009, a group of demolition contractors gather at the smelter to learn about the scope of the project in preparation for submitting bids.
CUT TO: REP ASKING QUESTION AND EXPRESSING FRUSTRATION	<u>REP:</u> EXPRESSES FRUSTRATION AT THE DIFFICULTY OF THE JOB
CUT TO: INTERVIEW WITH CLEVELAND REPRESENTATIVE	<u>BRIAN LAURIN:</u> TALKS ABOUT THE COMPANY'S HOPES TO WIN THE CONTRACT
CUT TO: CONTRACTORS TOURING THE SITE	<u>ANNCR VO:</u> This year's contract includes many of the smelter's remaining buildings ...
CUT TO: ANOTHER SHOT OF CONTRACTORS TOURING THE SITE WITH STACKS IN BACKGROUND	<u>ANNCR VO:</u> ... but the structures that have drawn the most interest are not the bag houses or the blast furnaces.
CUT TO: JOHN NICKEL NEAR STACKS TALKING ABOUT THE ISSUES INVOLVED IN THEIR DEMOLITION	<u>ANNCR VO:</u> Whoever is awarded the contract will be responsible for hiring an explosives expert to bring down ...
CUT TO: SHOT OF THE THREE STACKS	<u>ANNCR VO:</u> ... the three massive smokestacks that have dominated the East Helena skyline for more than a century.

<u>VIDEO</u>	<u>AUDIO</u>
CUT TO: JOE STIPCICH	<u>JOE STIPCICH:</u> TALKS ABOUT WHAT THE STACKS MEANT TO HIM AND THE COMMUNITY
DX TO TITLE CARD: Preparation	<u>MUSIC:</u> UP
UCUT TO: SHOT OF A CLEVELAND WRECKING LOGO ON A VEHICLE	<u>ANNCR VO:</u> In July, Asarco announces its choice: Cleveland Wrecking Company will be the general contractor.
CUT TO: B-ROLL OF CHESTER GRACE TIME STAMP: Thursday, August 6, 2009	<u>ANNCR VO:</u> A week before the August 14 target date, Chester Grace of Dykon Explosive Demolition arrives in East Helena to supervise the preparations.
CUT TO: CHESTER GRACE INTERVIEW	<u>CHESTER GRACE:</u> TALKS ABOUT MEASURES TAKEN TO ENSURE A SUCCESSFUL SHOT, INCLUDING DUST CONTROL, SAFETY, AND ...
CUT TO: WORKERS AT BASE OF STACKS, REMOVING MATERIAL AS CHESTER DESCRIBES THE PROCESS	<u>CG VO:</u> DESCRIBES HOW STACKS' DIRECTION OF FALL IS CONTROLLED.
CUT TO: B-ROLL OF IVER JOHNSON	<u>ANNCR VO:</u> Monitoring the above-ground parts of the operation is Iver Johnson of the Montana Department of Environmental Quality.
DX TO: IVER JOHNSON INTERVIEW	<u>IVER JOHNSON:</u> TALKS ABOUT THE STATE'S ROLE IN ENSURING ENVIRONMENTAL SAFETY
CUT TO: SHOTS OF SITE WITH STACKS IN BACKGROUND	<u>IJ VO:</u> CONTINUE ABOVE
CUT TO: SHOT OF SITE	<u>ANNCR VO:</u> While Johnson keeps an eye on what's visible at the site, the Environmental Protection Agency's ...

<u>VIDEO</u>	<u>AUDIO</u>
CUT TO: B-ROLL OF JULIE DALSOGLIO	<u>ANNCR VO:</u> ... Julie Dalsoglio deals with underground issues, such as water quality.
CUT TO: JULIE DALSOGLIO INTERVIEW, THEN FADE TO BLACK	<u>JULIE DALSOGLIO:</u> TALKS ABOUT THE EPA'S ROLE IN THE SMELTER DEMOLITION
DX TO: MOVING "FISH-EYE" SHOT OF MAIN ST. IN EAST HELENA LOOKING TOWARD THE STACKS TIME STAMP: Demolition Week, August, 2009	<u>MUSIC:</u> EDGY, TENSION-BUILDING
CONTINUE: MOVING "FISH-EYE" SHOT ABOVE	<u>MAYOR TERRIE CASEY VO:</u> TALKS ABOUT WHAT ASARCO HAS MEANT TO THE COMMUNITY
CUT TO: TERRIE CASEY INTERVIEW	<u>TC:</u> CONTINUE ABOVE
CUT BACK TO: MOVING "FISH-EYE" SHOT ABOVE, PASSING BY FIRE STATION	<u>MUSIC:</u> UP
CUT TO: SHOT OF FIRE STATION READERBOARD	<u>MANLEY STALLINGS VO:</u> TALKS ABOUT HOW SMELTER ALWAYS SUPPORTED THE VOLUNTEER FIRE DEPARTMENT
CUT TO: IR HEADLINES FROM WEEK, THEN FADE TO BLACK	<u>ROY WAHL VO:</u> TALKS ABOUT HOW STACKS WERE A LANDMARK FOR THE PAST CENTURY.
DX TO TITLE CARD: <i>Dynamite</i>	<u>MUSIC:</u> UP
DX TO: WORKERS PLACING CHARGES AT BASE OF STACKS TIME STAMP: Wednesday, August 12	<u>CHESTER GRACE:</u> GIVING ORDERS TO WORKERS
CUT TO: SHORT MONTAGE OF THE BLAST PREPARATIONS, INCLUDING SHOTS OF DYNAMITE BOX, STICKS, DRILLING, PACKING,	<u>SFX:</u> WORKERS TALKING, CHESTER SUPERVISING, ETC...

<u>VIDEO</u>	<u>AUDIO</u>
BLASTING CAPS, ETC..., THEN FADE TO BLACK	
DX TO TITLE CARD: <i>The Shot</i>	<u>MUSIC:</u> SERENE
DX TO: EARLY MORNING FROM MICROWAVE TOWER TOWARD SMELTER TIME STAMP: Friday, August 14, Dawn	<u>SFX:</u> NATURAL SOUND, BIRDS, A FEW DISTANT VOICES
CUT TO: SERIES OF IMAGES FROM THE MORNING. WE SEE PEOPLE ARRIVING, THE LIGHT INCREASES, SCENES FROM THE CROWD.	<u>SFX:</u> NATURAL SOUND, PEOPLE ETC...
CUT TO: "WALL OF MIST" BEGINS	<u>SFX:</u> HISS OF PUMPS
CUT TO: SHOT OF STACKS FROM WATER TOWER. THIS IS THE FINAL SHOT BEFORE DEMOLITION. WE HOLD ON IT, BUT UNLIKE OPENING SEQUENCE, WE DON'T HEAR THE COUNTDOWN	<u>SFX:</u> NATURAL SOUNDS FADE DOWN TO SILENCE
CONTINUE: SAME SHOT, PUFF OF SMOKE, SMALL STACK FALLS, THEN SINTER STACK, FINALLY BAGHOUSE STACK	<u>SFX:</u> NATURAL SOUNDS UP, INCLUDING CROWD NOISE
CUT TO: MONTAGE OF STACKS FALLING FROM EVERY ANGLE, SLO-MO, ETC... THEN, FADE TO BLACK	<u>SFX:</u> NATURAL SOUNDS CONTINUE
DX TO: CREDIT SEQUENCE, FEATURING CHESTER AND KELLY WITH REPORTERS, CROWD REACTIONS, FOOTAGE FROM NEWS BROADCASTS	<u>MUSIC:</u> UP AND OUT

FRED QUIVIK

My name is Fred, well OK, my name is Fredrick L. Quivik, and that's Q-U-I-V (as in vegetable) I-K and normally I would say my name is Fred Quivik and I'm a consulting historian of technology living in Philadelphia. And I do a lot of work as an expert witness in super fund and related environmental litigation and I also teach from time to time at the University of Pennsylvania; history of technology, environmental history, that sort of thing.

The company that started, {clears throat}, excuse me. The company that started this smelter had a small smelter at Wickes, outside of Helena and it had poor access to the railroad. There were some ores nearby that it could smelt but poor access to the railroad made it difficult to bring in other ores, fuel, ship product out. So eventually the company decided to establish the smelter here along the main line of the Northern Pacific Railroad. And that opened up a much larger territory from which it could draw ores throughout Montana and eventually the Intermountain West and the Northern Rockies.

I don't know.

The main challenge that a smelter faces is how to separate the lead, in the ore, from the other elements that comprise the ore. And in order to do that effectively one has to take the ore through several successive steps: of crushing the ore, concentrating the ore to separate the metal bearing particles from the non-metal bearing particles, roast the ore to drive off the sulfur (because lead ore typically is galena, lead sulfide), so bringing it to a high temperature in the presence of the oxygen that's in the air will oxidize the galena and drive off the sulfur and leave the lead, still some of the sulfur and some of the other elements that are in the ore and then the next step can be the smelting step where the temperature is raised to a melting temperature to separate the molten lead from the less dense slag elements that may also be remaining in the ore that are not volatile. So each of those steps requires it's own specialized equipment and over time there were improvements in those steps related to each other, some of the improvements had to do with materials handling, some improvements had to do with the scale of the equipments, so that more material could be moved through the smelter in a shorter period of time. And all of those steps led to more smoke being given off and also because the ore is being crushed and it's in a very fine state, more dust going up the stack with the smoke. Early on a chimney or a smokestack would have been present simply to provide enough draft to carry gasses through the furnace. And the first changes in stack design, and now we are talking about smelting generally and it probably occurred at this smelter as well or at least at Wickes. The first change would have been to build a somewhat smaller stack because with a short stack, the uh, and we are not talking {clears throat}, excuse me, it's early in the morning, we'll start that over again. I'm phlegming up.

So with a very short stack attached to a furnace, depending on weather conditions, wind conditions, sometimes the smoke would still settle in, in the smeltery and produce working conditions that were, that affected the smelter workers ability to continue on the job. And so they'd raise the height of the stack, simply to carry the smoke higher aloft into the atmosphere and try and dissipate the smoke. So in that sense the stack was to improve the environment of the workplace. And then as the stacks got higher, smelters got larger, then people in the surrounding countryside would start to notice the effects of elements in the smoke on their vegetation, on their livestock, and that sort of thing. And so those kinds of neighbors to the smelter would start to register complaints with the smelting company and that led to, um, the development, or the attempts to develop technologies that could remove sulfur from the smoke, remove in this case, lead from the smoke. And um, lead poisoning, for instance has been a well known threat to humans for quite some time. And so there was a concern for keeping lead out of the environment that could affect people in the surrounding area as well. In the early 20th century the industrial hygiene movement started looking at trying to improve workplace health and safety. Alice Hamilton was one of the leaders in that movement and one of the industries that she studied in particular was lead smelters in the American west and trying to improve workplace conditions to reduce lead poisoning in the smelter workers. So all of those types of concerns worked in conjunction with another concern that was of course dear to the heart of the smelting companies, and that was lost profits. Any of those materials going up the stack represented material that they couldn't recover and put in the market and sell. And so, to a certain extent, um, pollution concerns and efficiency concerns worked hand in hand to develop technologies that could recover flue dust, recover sulfur to make by-products, etc.

If they're actually smelting and they're, in this day and age as metallurgy has developed alternative methods of extracting pure metal from ore, sometimes they use the term smelting, even though it isn't technically a smelting process. So if we mean we are using heat to separate the metal from the ore then almost certainly there will have to be a stack of some sort.

One of the, uh, main changes that I described had to do with, um, the increasing scale of the furnaces. The, well I should say, there were two basic kinds of furnaces that could be used for smelting base metal ores: blast furnaces and reverbratory furnaces and from the literature I've seen, the original smelter had both kinds of furnaces. Blast furnaces are more typical for a lead furnace, for a lead smelter, um, and as technologies improved for concentrating ore, and I should say, early on they would have fed relatively high grade ore directly into a blast furnace, um, combined with fuel to bring the whole mix to a temperature high enough where it would melt and the lead would separate. With the introduction of concentrating technologies that involve crushing the ore more finely. That's when the ore would be too fine to feed into a blast furnace. A blast furnace, from the fact that you are sending a blast of air through the furnace to help fire the ignition of the fuels, then raise the temperature. So much of the ore then would just go out the top of the blast furnace and that would be lost product. And so, one of the innovative technologies: they learned that they could take the finely crushed concentrate which is a sand or close to a powder, put it into a device called a sintering furnace and heat it up

fairly high to a temperature where it starts to get kind of paste-y and in the process they are just tumbling stuff in a large tumbler and that fine powdery material start to adhere particles adhere to each other and form nodules, nodularization, and then they let it cool and you've got these nice marble sized or larger, hard nodules of ore that can be fed to a blast furnace and it can be smelted and then you won't lose all that material as dust going up the stack. So improvements like that were made over time in conjunction with changes in scale, increase in scale.

13:22

Again, I don't know.

14:14

There were a couple of other important technologies that were added at this smelter and many other smelters to reduce technology and the stacks are integral to those methods. One is something called a bag house, and it's a house that, It's a building that houses, essentially they're large, like socks and the flue gases, the smoke passes through those bags and it filters out particulates and draws the gases through the socks and up the stacks. So one of the important reasons for having a good tall stack is to induce a strong enough draft that you can draw the flue gases, the smoke, through and up the stack. Another important technology developed early in the 20th century was an electrostatic precipitator that had a chamber filled with plates, steel plates, with alternating positive and negative charge to them, that would attract particles, either a small negative or positive charge, so the particles of dust would adhere to those plates as they are passing through the chamber and then the smoke would go up the stack. A very effective way of removing certain kinds of dust from the flue gases before it goes up the stack.

16:04

Well concentration took place before that, and then so you've got a good lead concentrate that your sintering there.

16:16

And, and on thing. I would guess that they did no concentrating here. I don't know that for a fact in the early years, but this was a custom smelter and at great distance from the mines and so a typical move is to concentrate the ore near the mine and then you reduce the transportation cost. So you're not paying for shipping all those tailings as well to the site. So this site almost certainly either received only smelting ore or concentrates.

17:00

I've not seen, in the documentation, that this smelter had a concentrator. I've talked about concentrating being an important part in the overall process, but because this was a custom smelter that means it was receiving materials from mines at considerable distance

from here. For instance from the Couer'de Lane district and Northern Idaho. And so the mines there would want to concentrate the ore near the mine to discard as a waste product much of that heavy material before shipping it to East Helena. And so, I doubt very seriously that they ever did any concentrating here, but they would have received those concentrates and then had to sinter them or otherwise prepare them for feeding to the smelter furnaces.

18:18

I just know that it is true but not that, some of the, yea, uh. The detailed history of the stacks at Anaconda and Great Falls I know a lot better.

18:45

I think there are other people who are better at that. You know I've got my own ideas but now we are just getting into my more, relatively more uninformed opinions.

JON NICKEL

01:39:00:00

My name is Jon Nickel. J-O-N N-I-C-K-E-L and I'm the environmental manager for the Asarco East Helena plant.

Well thank you, I'm one out of one.

01:39:45:00

Well the East Helena plant held a unique position within the company. First of all you should know that the early works of the East Helena plant originated in the Corbin Wickes are just south of the now existing East Helena site. In the late 1880's the operations from that facility were brought down to the existing East Helena site. Initially the plant was designed and built to smelt, or process, materials hard won from the Montana earth. Over the course of time the smelter changed from a local smelter to an international smelter and began accepting raw materials from throughout the world. Ore purchasers within Asarco secured concentrates from South America, Japan, Korea, Australia, just to name some of the more far reaching locations. The uniqueness of the East Helena plant was that it had an ability to accept material that other smelters could not. And when I say that, the smelter was able to take materials that contain impurities. Impurities such as gold and silver for example. Other smelters had difficulty processing those. The unique characters of the East Helena plant allowed it to not just accept, but profitably produce those materials and get those out to commerce.

01:41:40:00

The East Helena plant's operations were very unique compared to a lot of other similar smelters. It had the ability to accept materials hard fought from the earth, containing impurities that other processes could not handle. Primarily gold and zinc, some of the other materials of interest were very profitable to the East Helena plant. In terms of their ability to not just accept them but get them in a commercial available product ready for further refining at one of our sister plants. The one particular is the one located in Omaha, Nebraska.

01:42:43:00

Well your right, The East Helena plant is a primary lead facility, but lead wasn't it's big margin or profit metal. The biggest material that the plant profited on was silver. Lead was a product that carried the silver and other precious metals along. That's not to say that the plant wasn't interested in securing materials containing high concentrates of lead. The real focus was an attempt to get other precious metals such as gold and silver into the operation.

01:43:50:00

I don't know if I can add anymore to what I already said. Clearly the ability to be, uh, fill a unique niche within the smelting process was critical to the longevity of the East Helena plant. And again it's ability to accept what are considered dirty materials in the mining industry allowed it to prosper where others failed.

01:44:40:00

In the early operations of the East Helena plant our grandfathers were more interested in processing materials. As time passed and with the advent of the Clean Air Act, the Clean Water Act, the Resource Conservation and Recover Act the focus shifted from making a profit to not making smoke. The company invested a tremendous amount of resources in making that happen. I can recall one of the major facilities that we constructed in the late 1970's was a double contact acid plant. At the price of about 40 million dollars. This reduced the amount of sulfur that was emitted from the tall stacks by 75% and by doing so created a saleable, marketable material: sulfuric acid. Which is used for a variety of different operations including freeze drying, the freeze drying process that Birds Eye might use. Other uses of the sulfuric acid include leaching uranium in the, in uranium mines, excuse me. Other major investments included building tremendous bag houses to capture the emissions from the plant and filter them before emitting the clean gasses into the air. As time passed and as more control of the air emissions took place. Focus then was directed towards the legacy of the past operations in terms of it's impact to the environment, particularly ground water. We are currently investigating some plumes that are originating on-site, migrating off-site, and trying to determine the best way to control that.

01:47:17:00

Well the East Helena plant faced many challenges. As each challenge arose we viewed it as opportunities. We had difficulty in the late 1990's securing concentrate in the open market and that was a result of the global depression. Many of the mines had shut down. Many of the sources that we had relied upon for incoming materials were no longer there. That put a tremendous strain on the ability for the East Helena plant to survive. Another factor that probably was more, that had more of an impact, was the closure of our Omaha plant. The Omaha plant was the sister plant to the East Helena plant in that it accepted the lead bullion we produced and refined it into the various metals. The gold, the silver and so forth. When the Omaha plant shut down the Asarco plant had to look for another purchaser of our lead bullion. And it became difficult to locate those particular processes and then the costs associated with refining the bullion became very difficult for us to continue our operation.

01:49:04:00

Well I believe that we all will need metals. Whether it be now or in the future, to what extent would be anybody's guess. A place for a plant like the East Helena facility, I think, has been lost in time. Environmental regulations, the cost for establishing a facility like the East Helena plant, I view as simply prohibitive. I would believe and would hope that somewhere in the world they'll, that technology would improve. The pyro-metallurgical process might improve. There may be new technologies that come about that make processing of minerals much easier.

Sorry about that stutter there.

01:50:30:00

I believe that the world will come together with a technology that will continue processing minerals hard fought from the earth. Whether it occurs in the United States is anyone's guess. More likely it will happen in a third world country. I believe that the community, the scientific community will unite and pull together their resources to come up with clean viable technology that will allow the smelting industry to flourish.

01:51:23:00

Well I, interesting question. This is the....

This is the first, and frankly, only job I have had coming out of college. I have been at the East Helena plant for over thirty years and for me to say that is somewhat of a unique statement. Knowing that individuals might change careers as much as a dozen times before retirement. For me to see the evolution of a viable, strong company that was built on the strength of a strong community to a point now where we are in our fourth year of demolition, is saddening. It's discouraging to see operations and processes such as the

East Helena plant become diminished over time and it's a very heart-full situation that I am now in.

01:52:44:00

Well the East Helena stacks are the icon of the East Helena smelter. Some of them are as old as one hundred years in age. I know that when I come flying in to Helena, I look out the window and the first thing I look for are the flashing lights on the stacks. In a month or so, these stacks will no longer exist and no longer will that icon that represents the community of East Helena.

01:53:33:00

Well, I guess I would characterize it as, maybe some silver stories. I have met a lot of great folks in my career with Asarco at the East Helena plant. This community is built on strong ethnic and cultural folks. They're hard working and I have seen a lot of good folks come through the smelter. Today they remain my friends and I'm hoping that will continue as I progress in completing the demolition of the East Helena plant and whatever my future may hold for me here at East Helena.

I hate it, I'm just winging this.

In the stilling well? What?

The Dry well? What are we talking about? Oh gosh no, I'm not going to tell that one. That has absolutely no factual basis. It is simply a rumor. And if that one gets out they are going to say Nickel said so, so it must be true and I'm not, I'm not going to touch that.

Good, thanks guys.

TERRIE CASEY

My name is Terrie Casey. It's spelled T (like a tree) E R R I E, last name is Casey C A S E Y. I'm the mayor for the city of East Helena.

03:06:53:00

The smelter made it a community, ah, I can't even think, you're going to have to cut this stuff. A company town; basically everything revolved around it. They had a ball field, I think it was, not major league but minor leagues maybe. They had a skating rink, they had summer picnics... Most of the people at one point probably worked out there. Over time it changed. A lot of people commuted to work and not as many residents actually worked there.

03:07:36:00

East Helena was a company town. They had summertime picnics, sorry I'm blowing this, summertime picnics, uh, minor league baseball team...

03:07:56:00 East Helena was a company town, they had a minor league baseball team, summer picnics up McClellan Creek. They had a skating rink, most of the people, at one point, that lived here were employed at Asarco or the Anaconda Company. They were both there at one point and over time it changed. It evolved. People would commute from other places and not as many people who were employed there were actually residents of this city.

03:08:35:00 I couldn't give you an actual percentage of the tax base, it was a big portion and it's hit us hard to lose that tax base. It's been a struggle for the city to make up those, those dollars.

03:09:00:00 We've had some adjustments in the budget. Not doing as many projects as we would like to. Not as many, oh gosh... I can't... sorry...

It's... we've had some changes. We've had to make changes in the budget, can't go as far as we used to with the monies. It's, it's had an impact on the city. Not being able to do as much as we would like to. We'd like to get more tax base back in.

03:10:08:00 There's a change in the different perspectives on those stacks coming down. Some people are looking very much forward to it, thinking it's a sign of the future and some people are pretty sad. Their history was there, their past, and they kind of hate to see that come to an end.

03:10:40:00 I would like to do something, unfortunately I don't believe we are going to do anything. There is going to be such a restriction on where people can park, things like that for security purposes. So I don't believe we are going to really do anything to celebrate or commemorate, whichever way you look at it.

03:11:08:00 Your breaking my heart, I can't I have to be out of town for my other job so I'm not going to be able to watch it when they come down. I'm disappointed, I would really like to be here for it.

03:11:30:00 It's just not going to be the same. I'm trying to figure out my flights in a different way, but it's not going to work.

03:11:46:00 It was just such, the company, the plant was such a big portion of the town. My husband worked there for 30 years. His father worked there some of his brothers, our daughter worked there briefly. I had my brothers, uncles, it's just a continuity, or was and that's all gone. It's pretty disappointing. Unfortunately I didn't actually grow up out here so I don't have all the stories about the ball games and the good

times at the picnics. Most of that had started to dwindle by the time my husband and I were married.

03:12:42:00 We don't know what's going to happen as far as the development of the Asarco properties. It's still tied up in bankruptcies and then there's the environmental impacts that we are going to have to work through. We'd love to see some more development. Probably I doubt that we would ever see anything on those same lines as big, but there is always a possibility of something maybe a little bit smaller coming in.

03:13:40:00 I don't believe that you are going to see any more company towns or its, I just think there is something that has changed in the economy and the way people live now. I just don't see it happening again. Your seeing Detroit and all of those places go down. It's just, I don't ever see it happening again. And that's maybe not bad, it's just change and things evolve.

03:14:40:00 East Helena was a company town, for a long time, and it's changed, things, people have moved away, the company, they had the temporary closure which, you know, turned into a permanent closure. The demolition of the properties. Some people are very sad. Some people are anxious to see it happen- thinking it's a move toward the future. Just kind of hard to gauge every bodies feelings. They're all just a little bit different and unique.

03:15:20:00 Well Asarco obviously had a lot of taxes that they paid and so that obviously supported the school district and the city and the county too. But then also the local, the fire department, if they were employees at Asarco and there was a fire call they were allowed to leave and still be paid while they responded to the fire calls. And that wasn't only just fire, but EMS. So that was huge. We've definitely had a change in the number of people that are part of that fire department. Also they provided good insurance, health, dental, so that helped the economy all the way around, made a big difference. And supported a lot of families for a lot of years.

Not so much that I can think of.

MANLEY STALLINGS

My name is Manley Stallings, that's spelled M-A-N-L-E-Y S-T-A-L-L-I-N-G-S. I worked at the smelter as a metallurgical engineer in my earlier years and then worked in management in my later years until the time I retired.

03:17:35:00 The fire occurred during the night, I went over to the smelter in the middle of the night, and I hadn't come home by nine o'clock in the morning. We were living in the smelter houses at the time, so she calls up the smelter and say's "What's Manley doing? I want to talk to him, he hasn't been home all night." And he says "well look out the window you can see him up on top of the stack up there."

03:18:20:00 My career started there as a graduate out of Montana Tech in 1965 and I was hired by Asarco to come to work here at this smelter as a metallurgical engineer and that's what I started out at.

03:18:39:00 My very first day at work. {laughs} That was one of those days in the middle of June when it was really cold and rainy. The furnace was down for a dig out. So they would clean it out and start over again fresh. They took me out and walked me around the plant and it was cold and rainy that day so, uh, I didn't know anybody, scared like all kids are when they come to work in a smelter. I'm walking around the plant and everybody I see is like middle aged or older. And the reason for that was, they had, they used to run the smelter full time, and then during the 60's things kind of slowed down a bit. So they went back to what they called a 10 and 4 schedule. So all the younger people were not working. The only people that were left working there were middle aged or older people. So there, I come there to be a metallurgical engineer and, help these, direct these guys around and what to do and everything and I was just a young kid, 25. Felt kind of awkward.

03:20:00:00 Metallurgical engineers at the plant over here involved being the department supervisor and as a metallurgical engineer you were in charge of the supervision of the department. You had foreman who worked for you, that actually directed the men and did the work. But your other responsibilities involved the metallurgy or the chemistry of the process in what was going on to make sure that things were within the limits they needed to be so the ore would smelt. If you worked in the sampling department, you worked on sampling procedures, made sure that sampling was done correctly and how to improve sampling, those type of things.

03:21:13:00 The fellow workers were a, like one big family really. And that's what they were because most of them that were here were from East Helena and there were several generations of family members that had worked or is working at the plant currently. There was some fathers and sons and uncles. So everybody knew everybody and had known them for probably most of their life. So it was interesting to be with the people.

03:21:59:00 That's kind of what it was in the middle sixties when I came here, was a, most of the people that worked at the smelter lived right here in the immediate area, and they were all, basically, several large extended families living in the area here.

03:22:21:00 I liked it very much. It was a good place to work and had lot's of fun here. It was interesting work in the fact, and of course I was doing different things than most of the working people, in the fact that I was involved in the chemistry of the process. Metallurgical engineering is basically high temperature chemistry in the smelting of the ore. So your working at temp... chemical reactions at 2000 degrees instead of chemical reactions at room temperature.

03:23:03:00 The ores that were processed at the smelter were what they called a complex ore. They contained gold, silver, lead, copper, antimony, bismuth, tin, and, uh. So that was the type of ore that was processed here and we had a very complicated metallurgical mix in balancing all these things so they wouldn't get out of the tolerances that this smelting process could stand in terms of passing too much through on to the slag if everything wasn't properly balanced.

03:23:53:00 When a train load of ore or a truckload of ore comes into the plant, it was, the first thing that had to be done was weighed. So we know how much is coming in and it had to be sampled. And the reason for that was: the ore was purchased from the miner and the miner of course wanted his money for the amount of ore, metal he had produced. And the way to determine that is by the weight and the samples. So everything had to be sampled according to very narrowly defined sampling procedures in order to make sure that you were getting the proper sample because your using, to represent a whole trainload of ore, your taking out about 64 pounds of sample out of that and then your cutting it down into half pound bags. So the process of getting a representative sample of a trainload of ore has to be very carefully done all through the process, in sampling the car. Dividing it down until you end up with a little pulp sack that goes to the laboratory for final analysis.

03:25:05:00 The people that did that had these established procedures that they followed kind of like recipes. They had to do everything, each step all the way down and it was up to the metallurgical engineer to define those steps to make sure that they were set up properly and then there was test work done to make using this procedure and that procedure to make sure that the results were the same. So we are always getting the correct answer. Because if you paid the miner for ore or metal that wasn't there then you would end up going broke. If you didn't pay the miner for enough for what he did, then he would end up going broke. So it was very important to get the right analysis on the ore in order to protect both the smelter and the miner.

03:26:30:00 Yea, that was quite the event at the smelter. The large old stack over there was originally built and lined with a wood lining and it had been in there from around 1940 to, the fire was in 70 or 71. I don't remember the exact year anymore. But anyway it spontaneous combustion, it sat the stack lining on fire and it was lined all the way to the top with wood. And there was no doors or access in the stack. So there was the only way you could get into the stack to put the fire out, because it was burning all the way to the top, was to get to the top and put a fire hose up there. So another person, by the name of Jerry Walker, and I climbed up the side of the stack with a rope on our shoulders and a pulley. One of us had the rope and one of us had the pulley and we climbed up to the top of the stack. Tied the pulley off. Fed the rope through there and down to the ground. They tied a fire hose on it and we pulled the fire hose up to the top. Tied it off and then they turned the fire hose on made sure it was going to work all right. Spraying down where it was supposed to spray. Spraying inside the stack and then on our way back down we tied the fire hose off every few feet, to the ladder on the way down. So it would stay put, in case the wind came up.

03:28:03:00 Well when the hose was up there we had the fire pumper down there running, pumping water up there and they ran it for 24 hours and shut the fire, or shut the water off and in a short period of time it started emitting smoke again so they had to turn it on and we ran it for, I don't remember, another day or so before it finally got the stack drenched enough to put the fire all the way out.

03:28:43:00 The wood lining was put in there because the SO₂ gasses that were going up the stack, when they would hit the cold concrete in the winter time. SO₂ would pick up moisture from the condensate off the stack there and turn to sulfuric acid which would turn, would attack the concrete. It would dissolve the stack eventually. So they put the wood in there to prevent that because wood is resistant to sulfuric acid. So what was done after that fire is they put a burner on the stack to keep the temperature above the dew point all the time and that's the way it ran until the shutdown of the smelter. With that burner keeping the dew point of the gasses.

03:29:46:00 Well for me, I've been thinking about it a bit and I know it's going to happen, but ah, that, those stacks over there is kind of the imprint of the community. I mean, whenever we come, we go away for a vacation or what not we come back and come over the hill and see the stacks we feel at home again. Now we are not going to be able to do that. I lived in Anaconda as a kid, I lived here 36 years, I lived in El-Paso and worked at El-Paso smelter, of course they had stacks down there and we lived just a couple of miles away from that so there was stacks there so, I've spent most of my life where there has been stacks somewhere in the background. So it's going to be different not being able to look out and see the stack and then the other thing I think about is all the people that worked there for the hundred years that the plant was open. Actually it was over a hundred years from 1889 until 2001. But anyway, all the families and all the people that spent their whole life there. It's going to, I think about those people. And what do they think about this and what it means to them to see a part of their history of their life kind of go away. And they can watch it go away.

03:31:12:00 It's going to be sad.

I plan on being there, yep, I'm going to be there and watch that.

03:31:54:00 One of the things I always think about and it's kind of funny when you look back at it but it was really kind of not that funny when it was actually happening. All the ore was hauled by railroad up to the top of the hill to be dumped out. And in the winter time when the snow was and the snow and wind was coming the tracks would be really slick and it was uphill from the furnaces all the way to the top up there. So the people would have to be out there fighting these slick tracks with front end loaders scraping the snow off and putting sand on them and so the people could, so the train tracks, trains could pull the cars up the track loaded with slag. And when you look back at it you think it's kind of, ohh, that was kind of funny for those guys to have to do that, but when you were there it was very miserable out there in the wind and the cold and 20 below and having to do that.

The other thing is we lived at the smelters right there at the base of the slag dump in the smelter houses and in the winter time when they come up and dump these slag pots. They held about 25 tons of slag, it was all molten and glowing red. Particularly in the night and they come up there and pour this slag down the side of the dump there and the whole country side would light up with a red glow on the snow. And our living room window was right aimed toward the slag dump. And when the train would start going up the tracks the kids could hear it. So they would all run over there and look out the window and watch this slag pour out of the pots and run down the side of the dump and turn the whole night sky, evening and the yard all red from the glow.

03:34:17:00 No, Charlie Pride was, worked there before I got there. But there was some stories going around about him. One of the most notable was the fact that, they had what they called the yard crew and they were the people that did the yard work around there. Maintaining all the kind of the facilities and roads and driving all the trucks around hauling ore and the front end loaders that hauled the ore around and doing the different things. Well one day the supervisor of this crew came out, he noticed that everything was kind of quiet. There was no people around, there's no trucks driving around, no front end loaders running so he started walking around looking for them. Well out behind the smelter out there by the big stack was a big woodpile and it was big. It was like 10, 12 feet tall. Just scrap wood thrown into a big pile. They saved this and used it for starting the furnace for them. That's why it was piled up there. But anyway, he went around there and there on this woodpile was all of his crew, was all perched on the woodpile and Charlie Pride was standing down at the bottom of the pile singing a song to the people. So he had to say "Hey guys it's time to go to work."

03:35:55:00 I don't know, there's a lot of people that worked there their whole lives, most of them did. It was fun working with them. People was, mainly descent of Middle Europeans which involved like Czechoslovakia, Bohemia, Hungary and that part of the world over there was the main. Constituted the people so they had that kind of ethnic work about them, so they had, most of them had gardens here at home and was a nice community to live and work in. I enjoyed the people and it was interesting work for me being a metallurgist. Because we had a very complex metallurgical charge to work with so it kept us going in terms of keeping studying and learning how to make these things work so we could keep things going. So it was an interesting life for me.

03:37:00:00 When the smelter first started in 1889 there was not any air pollution equipment. Because there was not any developed at the time. Some of it wasn't even developed until the 1920's. Bag houses were not used until after 1910 anywhere in the industry and when they first started the first bag house here, I think the year was 1912. That's not important. But anyway, at that time the didn't have the fabrics that we have now and so they used cotton or wool bags and they didn't understand the chemistry, they didn't understand the temperature control and all the other things. So the first set of bags in the bag houses, there was 3000 bags, 29 feet long, 18 inches in diameter, so you can understand how many bags was there. Lots of material, well they only lasted like 6 months according to the history that I have read of the development of the bag house over here and so they shut it down. And from the things they learned, they did a lot of

studying and work and started up the bag house again in 1915 and since that time it's been working. During that time period and in the years after that there's quite a bit of contaminants got out of the smelter and so it was on the ground around here so in the years coming they've spent a lot of time removing the soil from yards and replacing it with clean soil again and doing that kind of work around here.

JOSEF WARHANK

My name is Josef Warhank I spell the first name J-O-S-E-F and the second name, last name is W-A-R-H-A-N-K and my position is the compliance officer at the State Historic Preservation Office.

03:40:07:00 Well the East Helena smelter is an important cultural resource because it has been around for so long and it basically, it's development brought in a lot of people into this area of Montana. Of course people looking for jobs. The smelter offered a lot of immigrants from Eastern Europe and other parts of the world, jobs that they could make a good living at and some parts of Eastern Europe had a long history of mining and so-on. So those people felt right at home when they came over here to the United States. And since the Preservation Office is interested in preserving all of Montana's cultural resources we felt that we needed to be involved in what's happening over at the East Helena smelter. And because of the section 106 law, the historic preservation act of 1966 which it was implemented by the section 106 rules. We have a responsibility of helping the federal agencies get through that requirement of basically insuring that if they are going to do anything that is going to impact on cultural resources that they consult with us and we help them through the process. So in this case we, um, talked with the EPA and uh, and also the state agency, the, the uh, uh, Department of Environmental Qualities and got them involved and everybody is working together to make sure that we meet our obligations under the section 106 because this resource is going to be impacted adversely and we wanted to do it right.

03:42:18:00 The State Historic Preservation Office is required by law to work with federal agencies in mitigating any adverse impact that they might have to any cultural resources. In this case the EPA as the primary lead federal agency is responsible for the health and safety from an environmental standpoint and so it's determined by them, the federal agency, that they, uh, the East Helena smelter had to be cleaned up. Of course that clean up means that there would be an adverse effect on the, on an important cultural resource. So, therefore we have to get involved in working with them to make sure that all those laws that they have to adhere to are properly complied with.

03:43:38:00 No, the smelter is being treated pretty much like any other industrial site in Montana that is older than 50 years old. Because they have all contributed to our history, they've all contributed bringing in immigrants and helping to establish Montana as the Treasure State... we've had a lot of minerals that dragged out of the ground. So

these sites are all very important to our history. We treat them all pretty much the same. Whether they are in the extraction or the processing or the transportation We basically see all of them as important cultural resources. And so, the likes of the East Helena smelter is very much an important part of our industrial history in Montana and therefore we value it quite highly.

03:44:56:00 Well it, the East Helena smelter is a, was a continuation of a lot of industrial industrialization in Montana. The extraction industry in Montana was very important to our history. From the early days where they first discovered the placer properties and right on up through, there has always been an evolution, and it's just part of that evolution. It started out with the placer and then they started bringing small milling operations in and milling on a local level. A lot of the ore was transported way out of state and then with the trains and everything arriving in the 80's they found that they could bring in heavy equipment and do a lot of that reduction work and processing work right here. The Wickes smelter down there, between here and Butte was an earlier version of East Helena. In fact they took a lot of the equipment from the Wickes operation and moved it to East Helena when the East Helena started to be developed. So it's all a continuation and you just, you can't take it and extract it from the whole entire history of Montana's industrial development. It's an integral part of that and it worked with all, a lot of other things that were going on in Montana at the time as far as where the railroads were going and how they were moving it around. These things were determined in large part by where the facilities were that supported that type of processing. So, East Helena became a very important part of the industrial history of Montana but it also became very important world wide. Because other people around the world were aware of what's going on in East Helena, it was a very important industrial site.

03:47:17:00 Well it will be the end of a certain era, if you will, but the, uh, industrial functions that go on over there will probably continue in a small yet different way. It's my understanding that the slag piles and everything are due to be reprocessed perhaps if they can find the right company to come in, purchase them, they would reprocess that. So, that's just another continuation of the industrial history of Montana. So these things, these changes are inevitable. We have new safety rules, new safety laws and the American people, I think desire a cleaner environment. So EPA is going to have to make tough decisions and our job in the preservation office is to make sure that this change that is coming about by EPA's decisions is done in a managed fashion and not just arbitrary and helter-skelter, if you will. But rather is well thought out and that we move forward in a organized fashion and make sure that our history isn't just thrown away as we, you know, make new, uh, I guess, make new plans for the future industrialization, industrial activities in Montana. But they will continue because we still have the ore in the ground and we still have mining activity going on. Some of that stuff is of course being hauled out now. But there still is much a very big extractive industry going on in Montana and as the price of gold goes up that will continue. So things change, but uh, I think everyday new history is being made. Our job is to protect, uh, you know the history of Montana, but that doesn't mean it stops somehow fifty years ago and nothing new is happening.

03:49:40:00 Well I don't think I'm as well versed in that as other people that you've probably talked to. I do know that the historical society has a good collection of oral histories from the old smelter workers over there. I've listened to some of them. They tell some very interesting stories about the day to day operations of the smelter and how they processed the ore and everything and so I think it's a very important story. But I'm not in a position to give you any detailed stories about the activities over there, just the general overview.

03:50:26:00 Well I very much want to see if I can be there, yes indeed. I think that would be a very historic, uh, period in Montana. Other stacks in the state have come down that's always been noteworthy and I think East Helena will be very much noteworthy and, uh, um I don't, I think the office is going to be very melancholy about the whole deal, but we accept change and we just want to do our job to properly manage it.

Well I hope that you get some good shots out there and, uh, I think that I'd very much look forward to the video of this thing because I'm sure that you guys will probably have a better seat than me.

IVER JOHNSON

OK, my name is Iver Johnson, first name is spelled I-V-E-R last name J-O-H-N-S-O-N, environmental science specialist with the Department of Environmental Quality.

There are several government agencies involved, Montana DEQ, or Montana Department of Environmental Quality, of course is very much involved. Along with a partnership with the Environmental Protection Agency, EPA out of the Denver and Montana offices. Also we're coordinating with the Lewis and Clark County, the East Helena city commissioners and mayors and what not. So there's a lot of agencies involved to make sure that the demolition is going well. Of course we're working hand in hand with all the Asarco folks and those people that Asarco has subbed out to do the demolition and cleanup of the stacks.

Asarco over the past several years has released contracts to various demolition contractors. Last year and this year the award, they awarded Cleveland Wrecking Company the contract to do the demolition and clean up at the Asarco plant. In particular this year they are also going to demo the three stacks in question. There's a sub out there called Dykon and Dykon, from Oklahoma, will be up to actually place the explosives in place in the stacks and bring down the, uh, the stacks all into one debris pile and then Cleveland Wrecking will then be challenged to go ahead and clean up all the debris and take it to the licensed landfill across the street.

2:50

I think one of the greatest questions I've got from the public is "Is there going to be a release of toxic pollutants or particulates when the stacks come down?" I believe the best way to answer that is that we have done, and Asarco has done, and all the contractors have done, as much to mitigate any hazardous particulates that would be released when the stacks come down. In November 2007 the Asarco contractors went in and dry, did a power wash and dried everything in all three stacks and got rid of a lot of heavy metal dust and debris and sense then they also went in with power brushes around the base and finished completing that portion as well. Now during the stack demolition itself we're going to have power water dispensers out there and the stacks will be dropped on a liner to try to mitigate some of the debris. So as the dust happens, and it will be mostly cement dust, as it arises from the debris field, hopefully we can capture it in a mist canopy, a water canopy that will prevent the dust from leaving the facility.

4:29

We have done extensive cleaning to eliminate any toxic chemicals that would be released during the demolition. We have done asbestos testing, and no asbestos is present in either of the stacks. So we don't expect any release of toxic particulates from the stacks.

5:01

The procedures that will be implemented to make sure that the public is well aware of what's going on out there and also for their safety involves a joint coordination with the EPA and Asarco and the Montana DEQ to put out press and release notices of the event. Now we have also gone and produced dust control plans and environmental plans to make sure that the debris and the dust is all contained, all within the plant. There will probably be some dust that would be released into the air obviously, but we are hoping to mitigate that much with our water cannons.

5:46

Some of the unique challenges of bringing down the stacks, we're doing three stacks and we are doing all three at the same time. We're going to bring each stack down into a shared debris field and, uh, well I guess your going to have to edit that out. But... We're bringing down three stacks into a shared debris field and the unique challenge in that is to try to keep the debris field within 125 radius feet, so debris doesn't scatter around. Again it will allow us to capture the dust and do mitigation for dust control as the stacks come down and hit the ground.

7:00

{indecipherable} The unique parts of the stack is, uh, some of these stacks, the acid plant stack in particular is an old stack. It's made out of brick, it will be unique bringing that down versus the sinter plant stack or the blast furnace stack which is a concrete and relatively new. I would say relatively new, within the last 40 years. But, uh, the acid plant stack will be a challenge.

7:40

As a native Montanan I was in Great Falls when the Asarco stacks came down in Great Falls in 1987 and that was a big event. There was a lot of folks there. Emotionally it didn't affect me at all. This one here, because I've got such a tie in to make sure it's environmentally safe and controlled, that's professionally I have a greater awareness of that. Emotionally, they come down, they come down, that's the way it is.

JULIE DALSOGLIO

OK, my name is Julie Dalsoglio, first name is spelled J-U-L-I-E D (as in David)-A-L-S (as in Sam)-O-G-L-I-O. I am the deputy office director of the Montana office of the US Environmental Protection Agency.

The US Environmental Protection Agency and the Montana Department of Environmental Quality are involved in overseeing demolition of the East Helena smelter site, including in the past a number of buildings and beginning this next week, demolition of three stacks on site.

Asarco is the primary lead, the company which owns the site out of East Helena. They have hired two contractors: Cleveland Wrecking Company and Dykon - to conduct the stack demolition and will be working, they are working under order, an approved work plan by both the federal and the state agencies.

The federal and state agencies do not believe that there is any threat of a toxic release of chemicals during the stack demolition. To begin with, number one, all three of the stacks were previously cleaned of flue dust and other heavy metals/materials from the inside of the stack a number of years ago. There was subsequent sampling to ensure that those hazardous materials were completely removed, including things like asbestos. So we are pretty sure that the inside of the stack has been scrubbed very well from any potential toxic chemicals. During the demolition, there will of course be dust created with the felling of the stacks that dust will be created both from the concrete and remaining bricks from the stacks and from the impact of hitting the ground.

3:10

I'll be aware of... I'll watch the cars.

When the stacks do come down we do know there will be dust created both from the concrete and from the bricks and from the impact of hitting the dirt or the ground.

When the stacks do come down, when they are imploded, we don't believe there will be any toxic chemicals released during the felling of the stacks. We do know, of course, that

there will be other dust particles created from both the concrete and the bricks falling and also from the impact when it hits the ground.

4:10

Yes, the EPA and the state have approved the work plan for the site. The contractors have a number of measures in place to control the dust that will be created as the stacks hit the ground. First of all there will be what we call a "wall of mist" around the impact of the stacks falling. A number of, I'm sorry {laughs}

There are a number of measures that have been put into place and approved by the federal and state agencies related to controlling dust when the smelters fall. The first one will include using water and creating what we call a "wall of mist" around the site that will create kind of a curtain of water to trap the dust particles as the smelters fall. There are some other activities in terms of creating and controlling the way the directions of the stacks fall so that they fall together, there's a smaller area or zone of impact from the felling of the smelters and in addition, um, we will be having some monitoring equipment out, both outside the zone of exclusion but also within the zone of exclusion to track the amount of the dust that is created.

5:50

There are a number of procedures that, again, the federal government and the state has approved relative to protection of public safety and public health during the stack demolition. First of all, I think, hiring people who are very knowledgeable about this kind of demolition prospect is the number one thing. These people, the contractors, Dykon, really do know what they are doing. They've done this many many times before. So having really qualified people on the site are really important. There are a number of other safety measures that were taken into place around site access and control. That's another activity. The way that we will be using water to control the dust emissions during the demolition are also all on-site safety measures. There are a number of off-site safety measures. Including.... I'm sorry, I'm getting distracted.

7:00

There are in addition a number of off-site safety measures that have been put into place. Road access control, we're going to be doing some monitoring for dust emissions, there are a number of outreach activities that both Asarco and the agencies are conducting. In terms of door to door notification of local homeowners we are putting out a number of press releases to just generally inform the public about what's going to be happening. I think all of those activities together combine to make it a very safe activity that's going to occur with the demolition.

7:45

I'm going to ask for a point of clarification, does that mean in terms of the actual demolition. Or are you kind of asking a general about that?

The agencies don't believe that this particular activity has an especially dangerous or unique component to it. We feel that this is a pretty straight forward demolition process. We feel that, again, we have knowledgeable people, we're in an area where we have plenty of space to allow the stacks to fall in an area that is controlled and again is protective of public health and the environment. So we think that this is actually going to be done very well. It will be exciting, it will be a momentous activity relative to the passing of history within East Helena, but will be done in a very safe and straight forward way.

8:50

No. {laughs} I can't think of anything.

CHESTER GRACE

My name is Chester Grace I'm with Dykon Explosives Demolition, uh, C-H-E-S-T-E-R G-R-A-C-E. We're out of Tulsa, Oklahoma and I am a blaster with the company. I also do estimating.

12:10

Dykon Explosives Demolition, we're out of Tulsa Oklahoma, and we do 20, 25 blasts a year. It can vary from smokestacks to buildings to water towers, just all kinds of implosions. We cover anything that needs to be brought down explosively, we'll get on and we'll do. And over the years we've done, God, several hundred smokestacks, so it's pretty much just a regular business for us.

Well stacks are, you prep most stacks the same way whether they are concrete, steel or like we have here which we got concrete and brick here. You prep them basically the same. You make what's called a hinge point on each side and the hinge point is to get the stack to fall the way you want it to. And we also make what's called a mouth on the front side and the only reason why we do that is to cut down on the amount of drilling and explosives it takes to bring the stack down because you could shoot one without making the mouth in it, but we do that to get it to fall. And these here are a little differently, as you can tell because they want them shot off at the same time and the wind can't be blowing more than five mile per hour because of dust reasons and it is an environmental job site, so it makes it a little bit more challenging as far as keeping everything under control when you do the implosion.

14:00

Well on this one here particularly we're actually going to have less than 200 holes in all three smokestacks. Of course the number of holes is determined by the thickness of the outer shell. And so the bigger one right here behind me is going to have the most holes, it's going to have less than 120 holes. And it's going to take right at 60 pounds of explosives for that one there alone. And the other two combined is going to take less than 100, so we're going to have less than 200 pounds of explosives and bring down all three smoke stacks.

14:50

We can, once again it goes back to that hinge point and that hinge point is to control the way you want it to fall. And as long as you make them pretty much symmetrical on each side with each other, you can control it real well. The brick, a brick stack is a little different. Because brick, once you shoot it the integrity of it is a lot less than concrete, it's not as strong, so therefore when you shoot brick, brick has a tendency of just coming undone and basically you've got to, hopefully, it heads in the right direction before it does start crushing itself. Because brick is, doesn't have the integrity of concrete, so brick is a little bit more challenging on getting it the way you want it to fall. But they still pretty much fall the way you want to because gravity pretty much takes over when they start the way they are going to go.

15:40

Well, there's no delay on these, so as soon as you hear a boom all of the explosives have gone off in all three of them. So from the time you hear a boom till the time they fall, your looking at oh... less than a second.

With the smokestacks also, when you first shoot them you'll notice that they want to just stand there and it seems like forever but they gradually start moving the way you want them to fall, so that seems like it's forever, but generally it goes pretty quick.

16:16

Well, that's another thing, this is very unusual in this job, the way they're doing the dust control. We've never had anybody take the precautions that they are doing here. One of the things is, of course, the winds got to be less than five miles per hour. Another thing is the amount of water that they are going to put on this job site to control the dust has never, I have only, in all the jobs I've ever done, they have never used this much water. They are basically putting out 9,000 gallons a minute to control the dust on this. And because they are concrete they do generate a lot of dust. And there's still going to be a little bit of dust that might get away but they are taking all the precautions they can to keep the dust to a minimum. They're doing a great job.

17:17

The retaining bands? As far as doing anything to the retaining bands? We don't do anything to them. Uh, you want them retaining bands in place because it helps keep the

stack integrity. When a stack falls they normally break anyway about $\frac{3}{4}$ of the way up, they will kind of break and then they'll do a slapping action on the ground. But no, we want them bands to stay on there. The bands is, of course when they get on the ground they're just going to be disintegrated, but no we're not going to, we're going to leave everything like they are. We're treating everything on the ground, nothing above the ground.

18:00

Well the biggest difference, of course, is the environmental problem, what the job site represents and the amount of water they had to use to control the dust and the five mile an hour wind. When I first heard that, who in the world agreed to that. Because it's just unheard of and it's because of the respect they are having for everybody around this job site. That's, makes this the most imp.....Makes it very important that we do control the dust and keep it down to a minimum. And that makes it different than any other job as far as smoke stacks are.

18:30

These stacks are the cleanest stacks I've ever seen in my life. They've done an excellent job of washing them down and scrubbing them down. I just couldn't believe how clean they was when I got here yesterday. It's just unbelievable, the job they did to clean them. So, yea, it's a very clean stacks.

18:50

No, it's pretty much just like any...

Well traffic, I'm not sure exactly how... I know they are going to block this road off here. We were talking about that yesterday but they were pointing things out and I couldn't... I haven't really looked around. I've been on the job site and I haven't been around the job site. So that's, um, that's some... I know they're going to block this road off to keep anybody from coming down....Way down there and they're going to block this road off here, here and here, so I'm not really sure.

This is my inaugural trip..... Oh, it's beautiful country, absolutely beautiful. I love the weather, it's not 100 degrees. Back home it's 100 degrees and humid.... That storm you guys had come through here yesterday was {whistles} woof... That was a storm.

20:15

Well, when I first got here to Montana, this is my first trip here, uh, in the airport there was people, of course whenever I travel I got my company name on my shirt because of security reasons, cause everything I got got's explosive residue on it. And some of the people in the airport asked me if I was here to take down these stacks, so I knew that it must have been no secret that these stacks were coming down and also the Enterprise

lady and the people at the Motel also asked me if I was here for this, these stacks. So, obviously the word has been put out and they are doing a great job of letting everybody know what's going on and keeping everybody in the know. Which, that's good PR work.

BRIAN LAUREN

My name is Brian Lauren, I'm with Cleveland Wrecking Company and we were the prime contractor for the 2007 cleaning and demolition and CAMU phase II project that ended in 2008.

The bid that we're currently working on right now? This one is a lot more environmental cleaning, comprehensive, but there's a lot more environmental in the cleaning with respect to what we did last year. Last year was, uh, you know, a fair amount of cleaning that had to be done prior to our demolition work. Uh, but the focus really, is as Jon Nickel had mentioned these are always environmental projects with a demolition scope. Um, last years just had a lot more demolition aspects to it relative to the environmental and this year is I would say reversed, definitely.

We're going to give it our best shot. Um, you know there's a lot of people out there who are bidding this year which is fine with us. We don't have any problems with that, but, kind of our philosophy has always been: we, you know, we feel confident in what we do, we feel like we know what it takes to get the job done, you know safely, cost effectively. So we'll put our numbers together, uh, we'll do our best estimate and, uh, you know, let the chips where they, you know where they fall.